

## REMARKS

By this amendment, applicants have amended claims 7 and 12 to more clearly define their invention. See, e.g., page 11, lines 9 - 12 of applicants' specification.

Applicants thank the Examiner for the personal interview conducted on July 6, 2004. Present at the interview were applicants' Japanese patent representative Masaki Fujita, Examiner Kathryn S. O'Malley, Primary Examiner Henry Bennet, and the undersigned. During the interview, the present invention and the differences between the present invention and the state of the art were discussed with reference to the attached diagrams labeled "Cassette Buffering" and "Minimum Line." The differences between the present invention and United States Patent No. 4,923,584 to Bramhall, Jr. et al were also discussed. Those differences are set forth more fully hereinafter.

Claims 1 - 15 stand rejected under 35 USC 103(a) as being unpatentable over Bramhall, Jr. et al. Applicants traverse this rejection and request reconsideration thereof.

The present invention relates to a vacuum processing apparatus which includes a cassette block capable of mounting a plurality of cassettes storing sample to be processed and containing a sample transfer means for transferring the sample in an atmosphere. The vacuum processing apparatus includes a plurality of vacuum processing blocks, each of which contains a load lock chamber, a vacuum processing chamber for processing the sample and a sample transferring means for transferring the same between the vacuum processing chamber and the load lock chamber.

The patent to Bramhall, Jr. et al discloses a sealing arrangement for a vacuum processing system for semiconductor wafers which is effective to apply a sealing force to a valve element between chambers of the processing system. Figure 1 of this patent discloses a sputtering system 10 which includes a loading station 12 at atmospheric pressure, an evacuated central handling or staging chamber 14, a plurality of evacuated process chambers 16, 17, 18, 19 and 20, first and second load lock chambers 22 located between the staging chamber and the loading station, and a wafer handling assembly 24 located within the staging chamber. Clearly, the Bramhall, Jr. et al patent does not disclose a vacuum processing apparatus including a plurality of vacuum processing blocks, each of which contains a load lock chamber, a vacuum processing chamber for processing the sample and a sample transfer means for transferring the sample between the vacuum processing chamber and the load lock chamber. While the Examiner alleges in the outstanding office action that it would have been obvious to modify the arrangement of Bramhall, Jr. to provide a load lock chamber and transfer device for each vacuum processing chamber, applicants submit there is no such suggestion in Bramhall, Jr. et al.

In fact, it is submitted the Bramhall, Jr. et al patent actually teaches away from providing a load lock chamber and transfer device for each vacuum processing chamber. In this regard, the Bramhall, Jr. et al patent describes a "typical state-of-the-art system" and discusses the sequential placement of the substrate in any one or all of the process chambers allowing for sequential deposition of different layers using a central substrate handling chamber surrounded by separately pumped process chamber and separately pumped load lock. Bramhall, Jr. et al describe the inherent disadvantages in this configuration, including that the load lock evacuation

occurs serially with respect to the coating process. See, column 1, line 59 to column 2, line 43 of Bramhall, Jr. et al. This patent indicates that this shortcoming is overcome by the Bramhall, Jr. et al invention which provides a central substrate handling or staging chamber with separately pumped process chambers and dual load lock chambers which are alternately loaded with multiple piece-substrate batches. Clearly, the Bramhall, Jr. et al patent teaches away from using a load lock cycle for each vacuum processing chamber. Accordingly, it would not have been obvious to provide a separate load lock chamber for each vacuum processing block, as alleged by the Examiner.

Moreover, the present invention shows unexpectedly advantageous results over the arrangement of Bramhall, Jr. et al, in that, according to the present invention, the use of vacuum processing blocks each having a load lock chamber, a vacuum processing chamber and a sample transfer means, reduces contamination between the vacuum processing blocks and their respective vacuum processing chambers.

For the foregoing reasons, it is submitted the presently claimed invention is patentable over Bramhall, Jr. et al.

Applicants note the Examiner has cited a number of documents as being pertinent to applicants' disclosure. However, since these documents were not applied in rejecting claims formerly in the application, further discussion of these documents is deemed unnecessary.

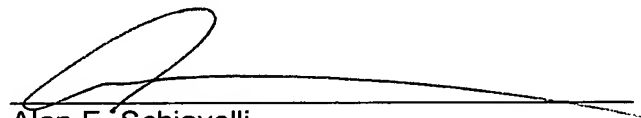
In view of the foregoing amendments and remarks, favorable reconsideration and allowance of all of the claims now in the application are requested.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing

of this paper, including extension of time fees, to the deposit account of Antonelli,  
Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 520.34692V16),  
and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

A handwritten signature in black ink, appearing to read 'Alan E. Schiavelli', written over a horizontal line.

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